REMARKS

Claims 1-16 and 18-27 are pending in the application.

Claims 1-27 have been rejected.

Claims 1, 16, 18, 19, 20, and 24 have been amended. Support for the amendment to claims 1, 16, 20, and 24 can be found, at least, in paragraphs 99 and 109 of the specification. Support for the additional amendment to claim 16 can be found, at least, in originally presented claim 17. No new matter has been added.

Claim 17 has been cancelled.

Rejection of Claims Under 35 U.S.C. §102

Claims 1-5, 7, 9-11 and 13-27 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,681,310, issued to Kusters et al. ("Kusters"). The Applicants respectfully traverse this rejection.

With respect to claim 1, the cited art fails to teach or suggest:

identifying, based upon an intent associated with a logical volume, a first set of

physical storage devices to reserve as backup for a second set of physical

storage devices configured to provide the logical volume, wherein

the second set of physical storage devices is configured using the intent

associated with the logical volume, wherein the intent is obtained

from a creator of the logical volume when the logical volume is

being created and stored on the second set of physical storage

devices, and wherein the intent comprises information identifying

a set of characteristics specified by the creator of the logical

volume, and

each physical storage device of the first set of physical storage devices and

the second set of physical storage devices conforms to the intent.

In the initial rejection of the claim 1, the Examiner cited lines 26-29 of column 7 of Kusters as teaching "the second set of physical storage devices is configured using an intent associated with the logical volume." Office Action mailed Dec. 22, 2006, p. 2. The cited portion of Kusters recites: "using the underlying characteristics of the storage devices 106 to allocate mirror copies of a volume based on pairs of devices that have similar seek and data-rate characteristics."

Thus, the cited portion of Kusters describes selecting which devices to use to allocate mirror copies of a volume based upon "the underlying characteristics" of those devices. Kusters neither teaches nor suggests using information actually stored on the storage devices upon which the volume is implemented to make the selection. Furthermore, Kusters neither teaches nor suggests storing an intent that identifies characteristics specified by the creator of the volume. Finally, Kusters neither teaches nor suggests using an intent such as the one described in claim 1 in the manner described in claim 1.

In response to the above arguments, the Examiner relies upon lines 14-52 of col. 7 and lines 60-63 of col. 6 of Kusters to allegedly teach: "the intent is stored on the second set of physical storage devices and wherein the intent comprises information identifying a set of characteristics specified by a creator [vendor] of the logical volume." Final Office Action mailed June 13, 2007, p. 2. Thus, the Examiner equates the "vendor" in Kusters with the "creator of the logical volume" of claim 1.

As used in Kusters, the term "vendor" refers to the vendor that supplies a particular storage device or array. Kusters describes the difficulties that arise when different vendors' storage devices each require different vendor-specific volume providers for configuration. See, e.g., Kusters, col. 2, lines 6-21. Thus, in Kusters, the term "vendor" refers to an entity that supplies a storage device and/or volume provider, not the creator of a logical volume. Stated another way, in Kusters, a vendor provides a storage device and a volume provider that can be used to configure the storage device. However, the vendor does not specify characteristics of a logical volume or otherwise act as the "creator" of a logical volume; instead, the vendor simply provides a storage device and a tool (the volume provider) that can be used to create a logical volume using the storage device.

Furthermore, nothing in the cited portions of Kusters teaches or suggests an "intent" that is "obtained from a creator of the logical volume when the logical volume is being created" and "stored on the second set of physical storage devices." The Examiner states that the "volume providers are stored on the storage devices" and equates these volume providers with the intent of claim 1. Final Office Action, p. 2. However, in Kusters, the volume providers are applications that execute in user space and/or kernel space. Kusters, col. 7, lines 7-12 and FIG. 3. While such a volume provider can "reside"

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on a storage device (Kusters, col. 6, lines 61-62), such an application is clearly not obtained from a creator of the logical volume when the logical volume is being created. Instead, such an application must necessarily already be executing in order for a volume to be created on the underlying storage device. Furthermore, other portions of Kusters (e.g., cols. 2 and 6) suggest that the volume providers are vendor-specific tools provided by a storage device vendor, and thus these volume providers are clearly not "obtained from a creator of the logical volume when the logical volume is created."

Additionally, the cited portions of Kusters do not teach or suggest that the "volume providers" are intents that include "information identifying a set of characteristics specified by the creator of the logical volume." The cited portion of Kusters states that: "Volume providers 203 may include vendorspecific [sic] rules." Kusters, col. 7, lines 45-46. However, these vendor-specific rules do not identify a set of characteristics that were specified by the creator of a logical volume. Instead, these rules are rules that were specified by a vendor for use in configuring volumes on an underlying storage device. As noted above, a vendor (as used in Kusters) is clearly not the same as the creator of a logical volume.

The Applicants also note that the rejection set forth in the Final Office Action is inconsistent. As noted above, the Examiner equates the "volume providers" described in of Kusters with the "intent" of claim 1. Final Office Action, p. 2. However, the Examiner also equates the "storage characteristics, seek and data-rate characteristics" described in Kusters with the intent of claim 1 on the same page of the Final Office Action. The Applicants note that this application of Kusters to claim 1 is inconsistent in that the Examiner is equating the "intent" of claim 1 with two unrelated things: a volume provider, which is an application that executes in user or kernel space, and characteristics, which are used by a volume manager that controls the volume providers. Neither of these things is the same as the intent of claim 1, nor is there any teaching or suggestion that these two unrelated things could be combined to somehow produce the intent of claim 1. This inconsistency further emphasizes that the cited portions of Kusters fail to teach or suggest claim 1.

For at least the foregoing reasons, claim 1 is patentable over the cited art, as are dependent claims 2-5, 7, 9-11, and 13-15. Claims 16-27 are patentable over the cited art for similar reasons.

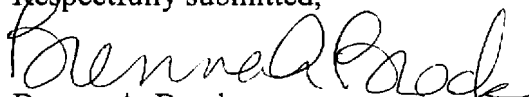*Rejection of Claims Under 35 U.S.C. §103*

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Kusters in view of U.S. Patent No. 5,615,352, issued to Jacobson ("Jacobson"). Claims 8 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kusters in view of U.S. Patent No. 5,904,599, issued to Cabrera ("Cabrera"). Applicants respectfully traverse these rejections for at least the foregoing reasons set forth above.

CONCLUSION

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephone interview, the Examiner is invited to telephone the undersigned at 512-439-5087.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,

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